[0020] The integrating of the plurality of control commands may include integrating the plurality of control commands into one or more clusters based on the additional information tagged to each control command of the plurality of commands, and determining a final control command to control the electronic device based on the integration.

[0021] The integrating of the plurality of control commands into one or more clusters may include calculating similarity between the plurality of control commands and performing the integration based on the calculated similarity and the additional information.

[0022] The determining of a final control command may include determining a control command corresponding to a centroid of each of the one or more clusters as the final control command.

[0023] The integrating of the plurality of control commands may include sending a query about processing of the redundant command, in response to there being a redundant command in the one or more clusters and the determining of the final control command may include determining the final control command based on a result of the query.

[0024] The integrating of the plurality of control commands may include selecting a voice agent to interact with a user from among the plurality of voice agents, in response to receiving the plurality of control commands from a plurality of voice agents.

[0025] In another general aspect, there is provided an apparatus for processing a control command for an electronic device, the apparatus including a processor configured to receive at least one control command for an electronic device from at least one voice agent and to tag additional information to the received at least one control command, integrate the received at least one control command and a control command being executed by the electronic device based on the additional information tagged to the at least one control command, and control the electronic device based on a result of the integration.

[0026] The processor may include a command tagger configured to receive at least one control command for an electronic device from at least one voice agent and to tag additional information to the received at least one control command, and a command executor configured to integrate the received at least one control command and a control command being executed by the electronic device based on the additional information tagged to the at least one control command and to control the electronic device based on a result of the integration.

[0027] The command executor may include a command integrator configured to determine whether the received control command and the control command being executed conflict with each other, and a final-command determiner configured to determine a final control command to control the electronic device, in response to the control commands conflicting with each other.

[0028] The command executor may include a command database (DB) configured to store control commands being executed by electronic devices, and the command integrator may be configured to detect the control command being executed by the electronic device from the command DB.

[0029] The command executor may include an interactor configured to send a query about processing of the conflicting commands, in response to the determination that the control commands conflict with each other, and the final-command determiner may be configured to determines the final control command based on a result of the query.

[0030] The command executor may include a policy DB configured to store policies for selecting a voice agent, and an agent selector configured to select a voice agent to interact with a user by referencing the policy DB.

[0031] In another general aspect, there is provided an agent device including a voice agent configured to transfer the entered control command to a command tagger, in response to a voice-type control command for controlling an electronic device being entered, and the command tagger configured to tag additional information to the transferred control command, the additional information being used to integrate one or more control commands for controlling the electronic device.

[0032] The agent device may include a communicator configured to send the control command with the tagged additional information to a control command processing device that integrates and processes the one or more control commands for controlling the electronic device.

[0033] The voice agent may be configured to convert the result of processing the control command into audio and to output the audio, in response to receiving the processed control command from the control command processing device.

[0034] The processed control command may include at least one of a query about processing of a plurality of redundant commands for controlling the electronic device or a result of executing the control command.

[0035] The voice agent may be further configured to collect at least one of a time at which the control command is uttered, a signal strength of the voice, information regarding the user, or a recognition accuracy of the voice and to transfer the collected information to the command tagger, in response the control command being entered.

[0036] Other features and aspects will be apparent from the following detailed description, the drawings, and the claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0037] FIG. **1** is a diagram of an apparatus for processing a control command according to an embodiment.

[0038] FIGS. **2**A to **2**D are diagrams showing examples of a command executor **120** of FIG. **1**.

[0039] FIGS. **3**A and **3**B are diagrams showing a method of processing a control command according to an embodiment.

[0040] FIG. **4** is a diagram showing a method of processing a control command according to an embodiment.

[0041] FIGS. **5** to **10** show examples of a network control system to which a control command processing technique is applied.

[0042] Throughout the drawings and the detailed description, unless otherwise described, the same drawing reference numerals should be understood to refer to the same elements, features, and structures. The relative size and depiction of these elements may be exaggerated for clarity, illustration, and convenience.

DETAILED DESCRIPTION

[0043] The following detailed description is provided to assist the reader in gaining a comprehensive understanding of the methods, apparatuses, and/or systems described